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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/670,648	09/27/2000	Paul Kunisch	SIEM0022U/US	7175
31518	7590	12/31/2003	EXAMINER	
NEIFELD IP LAW, PC 2001 JEFFERSON DAVIS HIGHWAY ARLINGTON, VA 22202			JAMAL, ALEXANDER	
			ART UNIT	PAPER NUMBER
			2643	11

DATE MAILED: 12/31/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/670,648

Applicant(s)

KUNISCH, PAUL

Examiner

Alexander Jamal

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 October 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☐ Claim(s) _____ is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 5. 6) ☐ Other: _____

Response to Amendment

1. Based upon the submitted amendments, examiner withdraws objections from the prior office action (June 30th 2003) to the Title of Invention, Specification, and Claims 4 and 6.
2. Examiner withdraws the Rejections of claims 1-6 from the prior office action (June 30th 2003).

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. **Claims 1,2,4** rejected under 35 U.S.C. 103(a) as being unpatentable over Nimmagadda (6426961), and further in view of Kramer (5422939).

a. Claim 1

- i. Nimmagadda discloses a method in a communications system that detects an off-hook condition of a two-wire subscriber line with two terminal devices (ABSTRACT). The detection takes place at a switching center (central office) (Col 6 lines 41-55). However, Nimmagadda does not specify detecting a first terminal device by comparing the loop current to a threshold, and then comparing the loop current to a second threshold higher than the first threshold by the minimum operating current level of the device.

ii. Kramer teaches a method in a communications system that detects the loop direct current and voltage of a two-wire subscriber line with a first terminal device (Col 2, lines 36-38) and compares the measurement to a threshold to determine an off-hook condition in the first terminal device. Kramer measures the time it takes to charge up a capacitor as an indication of the level of the voltage across and current flow in the subscriber loop. The time to charge the capacitor when all lines are onhook is measured periodically and averaged together in order to provide a reference by which the comparison threshold is based on (Col 2, lines 47-66). The comparison threshold of the capacitor that is obtained with all devices on-hook is the **First Threshold**. In another instance, the second communications device is in a steady state operating condition (offhook). In this state, since the comparison threshold is based upon the periodic averaging of the time taken to charge up the capacitor (the 'time taken' is based upon the current in the loop), once the second communications device is offhook, the periodic averaging will take into account the steady state operating current of the second device, and as such the comparison threshold is a **Second Threshold** that is based upon the loop current of the first threshold plus the steady-state current draw of the second communications device (Col 3 lines 11-19). The amount of time taken to charge up the capacitor is an indication of the amount of loop current. When a device goes offhook, the amount of loop current will increase (as the impedance decreases), and when a second device goes offhook the impedance will further decrease and the current will further increase. Kramer's method

detects the change in loop current based upon the loop impedance change caused by devices going offhook. It would have been obvious to one skilled in the art at the time of the application to utilize Kramer's off-hook detection method in Nimmagadda's central office detector for the advantage that the same capacitor charging comparison circuitry may be used on differing types of loops (Kramer: Col 3 lines 1-10) with differing operating voltages and currents.

b. Claim 2: Kramer's communication system involves one analog terminal device and one digital terminal device (Col 3 line 63 to Col 4 line 14).

c. Claim 4: Kramer's communication system describes a coupling transformer used in the data terminal that presents a 600 ohm DC resistance to the subscriber line when the terminal is in an offhook mode (Col 6, lines 9-16). That is the same offhook DC resistance which Kramer specifies for the analog telephone (Col 6 line 64 to Col 7 line 4). The DC resistance of the offhook data device corresponds to the dc resistance of the offhook analog telephone.

3. Claims 3 rejected under 35 U.S.C. 103(a) as being unpatentable over Nimmagadda (6426961), and Kramer (5422939) as applied to claim 1 above, and further in view of Brown (5506891).

a. Claim 3: Nimmagadda and Kramer describe claims 1,2,4 but do not mention setting the first threshold to approximately 10 ma.

Brown teaches that most modern telephones require between 10ma and 40ma and 3.5V-5V to operate properly. It would have been obvious to one skilled in the art at the

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time of the application that the threshold for detecting an offhook terminal device be set at least to the minimum operating current of the terminal device to ensure that the terminal device is able to effectively function after going offhook.

- b. Brown also discloses that in a subscriber loop with a telephone and a data modem, an active current source (sink) may be used to raise the impedance of the modem (data device)

4. **Claim 5** rejected under 35 U.S.C. 103(a) as being unpatentable over Nimmagadda (6426961), and Kramer (5422939) as applied to claims 1,2,4 above, and further in view of Martin Jr. et al (5398277).

- a. **Claim 5:** Nimmagadda and Kramer describe claims 1,2,4 but do not mention the offhook DC resistance of the data terminal device being exactly 300 ohms.

Martin teaches that a modem (data terminal device) utilizes components to place an effective 300 ohm resistance across the subscriber line. He teaches the advantage that a 300 ohm impedance across the subscriber line is considered a busy line by the telephone company (Col 18, line 65 to Col 19 line13). It would have been obvious to one skilled in the art at the time of the application that a data terminal device which is detected alongside analog telephones should have an offhook resistance of 300 ohms so that the data device can be detected by the same means that detect the analog phone offhook condition.

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5. Claim 6 rejected under 35 U.S.C. 103(a) as being unpatentable over Nimmagadda (6426961), and Kramer (5422939) as applied to claims 1,2,4 above, and further in view of Brown (5506891) and Guntzburger et. al (6240177)

- a. Claim 6:** Nimmagadda and Kramer describe claims 1,2,4 but do not mention the step of lowering the loop current of the data device after off-hook detection and the beginning of data transmission to approximately 5mA with an active current source.

Guntzberger teaches a method of detecting offhook in a subscriber loop with a modem and additional telephones connected. He teaches the step of setting the DC operating point (if the modem is 'operating' it is off-hook and transmitting) of the modem such that a variation in the current can be detected when a telephone is taken offhook (Col 1 lines 30-52). This concept teaches the idea that the operating point of the modem cannot interfere with the operating (or detecting) point of the telephone. It would have been obvious to one of ordinary skill in the art at the time of this application to set the DC operating point of the modem to a value less than the threshold for detection of a telephone (10mA), or approximately 5mA for the purpose of obtaining a detectable variation of current when an additional device (telephone) comes into operation (goes offhook).


Additionally, Brown's teaching (the motivation for combining is given above in item #3) also discloses that modems may use an active current source (sink) in order to raise the effective impedance (and as such, vary the operating point) of the modem (Brown: Col 11 lines 34-49).

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alexander Jamal whose telephone number is 703-305-3433. The examiner can normally be reached on M-F 8AM-5PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Curtis A Kuntz can be reached on 703-305-4708. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9306 for regular communications and 703-872-9315 for After Final communications.

AJ
December 18, 2003


DUC NGUYEN
PRIMARY EXAMINER